National Climatic Data Center

DATA DOCUMENTATION

FOR

DATA SET 9641B (DSI-9641B)

MONTHLY DIVISIONAL MEANS AND STANDARD DEVIATIONS 1931-1980
(COMPARISON DATA SET)

December 18, 2002

National Climatic Data Center
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1. Abstract: This data set consists of four files (1931-1960, 1941-1970, 1951-1980 and 1931-1980) containing divisional temperature and precipitation data, long-term means and standard deviations from the 1931-80 period. The values in this data set are based on station data that were available as the CLIMATOLOGICAL DATA publication went to press on an operational basis. Late station reports and corrected station reports were generally not incorporated into these divisional values. In the mid-1980's, late and corrected station reports were incorporated into divisional values which are part of a companion data set. The companion data set's values supercede the values in this data set. **This data set is being retained for comparative purposes only.**

DIFFERENCES FROM CURRENT OFFICIAL NORMALS

The long-term means and standard deviations in this data set were published in previous editions of the publication, CLIMATOGRAPHY OF THE UNITED STATES NO. 85: DIVISIONAL NORMALS AND STANDARD DEVIATIONS OF TEMPERATURE AND PRECIPITATION 1931-80 (referred to as CLIM85). The monthly and annual temperature and precipitation means and standard deviations for 1931-60, 1941-70, and 1951-80 in this data set may differ from the corresponding normals and standard deviations printed in the current (1931-90) edition of the CLIM85 publication. This is due to a change in the divisional database that occurred in the 1980's.

Background: In the early days of computer processing (i.e., the 1960's), the divisional database was created by digitizing the divisional monthly values that were published in the CLIMATOLOGICAL DATA (CD) publication. The database was updated routinely by the CD processing software. Unfortunately, this process generally did not include corrected or late station reports. The divisional values were calculated from the station data that were available when the CD went to press. The corrected and late station reports, which were published months later as CD errata sheets, were not always incorporated into the divisional values that went into the normals database. Some divisional values were, consequently, based on incomplete data. The editions of the CLIM85 publication which were published prior to the mid-1980's contained normals that were based on these older divisional values.

In the mid-1980's, the National Climatic Data Center began to routinely incorporate the errata sheet data (corrected and late station temperature and precipitation reports) into the divisional database. The data in the old CD errata sheets for the contiguous 48 states were incorporated into the historical database at that time. The revised (completed) divisional database was used to recompute the normals and standard deviations for the previous periods (1931-60, 1941-70, and 1951-80) as well as compute the current normals values (1961-90) that are included in the companion data set and are published in the current CLIM85 edition.

This data set contains data that formed the basis for the previous editions of the CLIM85 publication. The values in the current edition were compared to the previous values and differences were noted in the current edition. The values in this data set have therefore been superceded. Consequently, this data set is being retained only for comparative purposes

Data Derivation Algorithms

The data in this data set are for climate divisions. A division represents a region within a state that is climatically quasi-homogeneous or, in some cases, a semi-homogeneous drainage basin. As such, some areas may experience

rather extreme variations within a division (for example, the Rocky Mountain states). The monthly divisional value for a given year and month is calculated by averaging the monthly data for all stations in the division that furnished both temperature and precipitation records for the month. The divisions have been established to satisfy researchers in hydrology, agriculture, energy supply, etc., who require data averaged over an area of a state rather than for a point (station). Divisional data have been found to be useful for building larger area averages (e.g., for entire states or regions). The data presented have many applications, but like all climatological products they must be used within the framework for which they were designed.

Division 7 (Outlying Islands) in Puerto Rico is omitted. The Virgin Islands data from St. Thomas, St. Croix, and St. John have been combined into a three-island average.

2. Element Names and Definitions:

This data set contains long-term means, standard deviations, and historical sequential monthly temperature and precipitation data from the period 1931-80 for United States climate divisions. The data are archived in four parameter-dependent files on one magnetic tape. These values were used as a comparison check in the computation of climate normals for the period 1931-90. The values in this data set are no longer considered official, but they are being retained for comparative purposes.

Each file has the following format:

Columns	Description
1- 1	Element Code. Values are: 1 = mean temperature 2 = total precipitation
2- 3	State Identifier Code (values 01-48,50,66,67)
4- 5	Climate Division Number (values 01-10)
6- 9	Beginning Year for the Record
10-13	Ending Year for the Record
14-18	Data Value for January
19-23	Data Value for February
24-28	Data Value for March
29-33	Data Value for April
34-38	Data Value for May
39-43	Data Value for June
44-48	Data Value for July
49-53	Data Value for August
54-58	Data Value for September
59-63	Data Value for October
64-68	Data Value for November
69-73	Data Value for December
74-79	Annual Data Value
80-80	Statistic Code. Values are: 1 = sequential year-month data 2 = mean for Beginning Year to Ending Year 3 = standard deviation for Beginning Year to Ending Year

FIRST FILE: OLD SEQUENTIAL TEMPERATURE

The first file contains the old divisional sequential monthly and annual temperature values for January 1931 to December 1980. The following values coded in the following record fields are specific to this file:

Record Field	Value
Element (column 1):	1
Beginning Year (col. 6-9):	a year (from 1931-1980) for this record
Ending Year (col. 10-13):	same as Beginning Year
Statistic (col. 80):	1

The monthly and annual values are coded to tenths of a degree Fahrenheit. An annual value of -99999 indicates the value is missing (was not archived in this file).

SECOND FILE: OLD TEMPERATURE MEANS AND STANDARD DEVIATIONS

The second file contains the old 30-year and 50-year means and standard deviations for temperature. The Beginning and Ending Year fields identify the period the means or standard deviations are for. The following values coded in the following record fields are specific to this file:

Record Field	Value
Element (column 1):	1
Beginning Year (col. 6-9):	1931,1941,1951
Ending Year (col. 10-13):	1960,1970,1980
Statistic (col. 80):	2,3

The monthly and annual values are coded to tenths of a degree Fahrenheit.

THIRD FILE: OLD SEQUENTIAL PRECIPITATION

The third file contains the old divisional sequential monthly and annual precipitation values for January 1931 to December 1980. The following values coded in the following record fields are specific to this file:

Record Field	Value
Element (column 1):	2
Beginning Year (col. 6-9):	a year (from 1931-1980) for this record
Ending Year (col. 10-13):	same as Beginning Year
Statistic (col. 80):	1

The monthly and annual values are coded to hundredths of an inch. An annual value of -99999 indicates the value is missing (was not archived in this file).

FOURTH FILE: OLD PRECIPITATION MEANS AND STANDARD DEVIATIONS

The fourth file contains the old 30-year and 50-year means and standard deviations for precipitation. The Beginning and Ending Year fields identify

the period the means or standard deviations are for. The following values coded in the following record fields are specific to this file:

Record Field	Values
Element (column 1):	2
Beginning Year (col. 6-9):	1931,1941,1951
Ending Year (col. 10-13):	1960,1970,1980
Statistic (col. 80):	2,3

The monthly and annual values are coded to hundredths of an inch.

3. Start Date: 19310101

4. Stop Date: 19801231

5. Coverage: Climate divisions for the contiguous United States, Alaska, Puerto Rico, and the Virgin Islands.

a. Southernmost Latitude: 17N
b. Northernmost Latitude: 72N
c. Westernmost Longitude: 65W
d. Easternmost Longitude: 172E

6. How to Order Data:

Ask NCDC's Climate Services about the cost of obtaining this data set.
Phone: 828-271-4800
FAX: 828-271-4876
E-mail: NCDC.Orders@noaa.gov

7. Archiving Data Center:

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, NC 28801-5001
Phone: (828) 271-4800.

8. Technical Contact:

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, NC 28801-5001
Phone: (828) 271-4800.

9. Known Uncorrected Problems: Station precipitation gages undercatch rain by about 4%. Also, some temperature biases may exist for some stations (e.g., urban heat island, instrument changes).

10. Quality Statement: High Quality. Station data QC'd monthly. The values in this data set were calculated from station data available at processing time. Data from late station reports and corrected station reports were generally not included.

11. Essential Companion Datasets: The values in this data set were compared to the official divisional normals, standard deviations, and sequential values in the following official divisional normals data set:

DSI-9641: MONTHLY DIVISIONAL NORMALS AND STANDARD DEVIATIONS, FROM 1931-90, OF TEMPERATURE, PRECIPITATION, AND HEATING AND COOLING DEGREE DAYS.

12. References:

CLIMATOGRAPHY OF THE UNITED STATES NO. 85: DIVISIONAL TEMPERATURE AND PRECIPITATION NORMALS AND STANDARD DEVIATIONS 1931-90. National Climatic Data Center, Asheville, NC.